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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/010,712 | 12/06/2001 | Todd F. Bartelt | 001,359 | 2749 |
| 24030 | 7590 | 03/07/2005 | EXAMINER | |
| SHUGHART THOMSON & KILROY, PC 120 WEST 12TH STREET KANSAS CITY, MO 64105 | | | CARTER, AARON W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2625 | |
| DATE MAILED: 03/07/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|----------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/010,712 | BARTELT ET AL. | |
| | Examiner Aaron W Carter | Art Unit 2625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 March 2002.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 6-9 is/are allowed.
- 6) Claim(s) 1-5,10-18,21-24,27 and 28 is/are rejected.
- 7) Claim(s) 19,20,25 and 26 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 06 December 2001 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>05/2002</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 10-18, 21-24, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,184,732 to Ditchburn et al. ("Ditchburn").

As to claim 1, Ditchburn discloses a workpiece inspection system for inspecting a succession of workpieces and comprising:

- a) an image capture device positioned to define a workpiece inspection zone and to capture an image of a workpiece within said workpiece inspection zone (column 3, lines 37-52, wherein viewer correspond to image capture device);
- b) a workpiece launching device positioned in spaced relation to said inspection zone and from which workpieces are successively launched to pass unsupported through said inspection zone (column 3, lines 13-27, wherein feeder corresponds to workpiece launching device); and
- c) a controller communicating with said image capture device; said controller programmed to process an image of each workpiece as it passes through said inspection zone to

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detect a selected characteristic of the workpiece from the image (column 4, lines 20-25) and, if the selected characteristic is detected, to generate a workpiece action signal indicative of the presence of the selected characteristic in the respective workpiece (column 3, lines 53-57 and column 4, lines 27-32).

As to claim 2, Ditchburn discloses the workpiece inspection system as in claim 1, further comprising:

a) a workpiece differentiating device communicating with said controller and acting relative to the respective workpiece in response to said workpiece action signal to differentiate the respective workpiece from workpieces for which said workpiece action signal has not been generated (column 3, line 53 – column 4, line 7 and column 4, lines 27-43).

As to claim 3, Ditchburn discloses the workpiece inspection system as in claim 1, further comprising:

a) a workpiece path selection device communicating with said controller and positioned to engage the respective workpiece in response to said workpiece action signal to determine a subsequent path of movement of the work piece (column 3, lines 53-57).

As to claim 4, please refer to the rejections claim 1 above. No new limitations are presented except for the limitation below which is also disclosed by Ditchburn.

A sensor positioned to sense when a workpiece has entered said inspection zone (column 3, lines 27-29).

As to claim 5, Ditchburn discloses the workpiece inspection apparatus as in claim 4, further comprising a diverter selectively operable to divert a workpiece from a first path of travel to a second path of travel after the workpiece passes through the field of view of the camera; said diverter communicating with said controller and said controller programmed to cause said diverter to divert to said second path of travel any workpiece in which a defect has been identified by said controller (column 3, lines 53-57 and column 4, lines 27-32).

As to claim 10, please refer to the rejection of claim 1 above.

As to claim 11, Ditchburn discloses the workpiece inspection system as in claim 10 further comprising:

a) illumination means for illuminating each workpiece as it passes into the field of view of said image capture means (column 3, lines 27-37).

As to claim 12, please refer to the rejection of claims 2, 3 and 5 above.

As to claim 13, please refer to the rejection of claim 1 above.

As to claim 14, please refer to the rejection of claim 2 above.

As to claim 15, please refer to the rejection of claim 3 above.

As to claim 16, please refer to the rejection of claims 4 and 5 above.

As to claim 17, please refer to the rejection of claim 11 above.

As to claim 18, Ditchburn discloses the process for inspecting a plurality of workpieces as in claim 16 further comprising the step of:

a) illuminating each workpiece simultaneously with the step of capturing the image of the workpiece with the camera and in response to sensing the workpiece passing within the field of view of the camera (column 3, lines 27-37).

As to claim 21, Ditchburn discloses the process of claim 16, wherein the camera comprises one of a plurality of cameras (Fig. 1, element 5 and column 3, lines 37-52).

As to claim 22, Ditchburn discloses the process of claim 16, wherein the step of launching the workpieces past the field of view of a camera comprises dropping the workpieces past the field of view of the camera (column 3, lines 24-27).

As to claim 23, Ditchburn discloses the process of claim 16, wherein the step of launching the workpiece past the field of view a camera comprising accelerating each workpiece downward and releasing the workpiece to drop past the field of view of the camera (column 3, lines 13-27).

As to claim 24, please refer to the rejection of claims 4, 21, 18 and 5 above.

As to claim 27, please refer to the rejection of claim 22 above.

As to claim 28, please refer to the rejection of claim 23 above.

Allowable Subject Matter

3. Claims 6-9 are allowed.
4. Claims 19, 20, 25 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is an examiner's statement of reasons for allowance:

As to claim 6, none of the prior art teach or fairly suggests the limitations of inspecting hollow workpieces with at least a first opening , directing light into a workpiece through the first opening when the workpiece is passing unsupported through said inspection zone, capturing an image and analyzing the image to determine the presence of additional openings in the workpiece . Ditchburn discloses capturing an image of a workpiece as it passes unsupported through an inspection zone and analyzing the image, but does not teach or fairly suggest the limitation of directing light through a first opening and analyzing the images to determine the presence of additional openings.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 5,026,982 to Stroman discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 5,748,324 to Howarth et al. discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 5,434,616 to Anger et al. discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 5,499,055 to Anger et al. discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 5,898,169 to Nordbryhn discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 6,205,237 to Focke et al. discloses inspecting a workpiece as it passes unsupported through an inspection zone.

USPN 6,265,683 to Flottmann et al. discloses inspecting a workpiece as it passes unsupported through an inspection zone.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W Carter whose telephone number is (703) 306-4060. The examiner can normally be reached on 7am - 3:30 am (Mon. - Fri.).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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